

CALIFORNIA ENERGY COMMISSION

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December 10, 2001

Mr. Colin Taylor
Sacramento Municipal Utility District
PO Box 15830
Sacramento CA 95852-1830

Re: COSUMNES POWER PLANT (01-AFC-19) - DATA REQUESTS

Dear Mr. Taylor:

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

Enclosed are data requests in the area of alternatives, biological resources, cultural resources, geology, land use, noise, project description, traffic and transportation, transmission system engineering, visual resources, water and soil resources. Please provide written responses to the enclosed data requests on or before January 9, 2001.

Air quality data requests will be submitted the week of December 10, 2001. Additional data requests will likely be submitted in the areas of hazardous materials, public health, hazardous waste management, and worker safety by the week of December 17, 2001.

If you are unable to provide the information requested, need additional time to provide the information, or object to providing it, then please send a written notice to both the Committee and me within 10 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions regarding the enclosed data requests, please contact me at (916) 654-3929 or at kchew@energy.state.ca.us.

Sincerely,

-S-

Kristy Chew
Energy Facility Siting Project Manager

Enclosure

cc: Kevin Hudson, IEC
John Carrier, CH2MHILL

COSUMNES POWER PLANT (01-AFC-19)
DATA REQUESTS

Technical Area: Alternatives

Author: Negar Vahidi and Jacob Hawkins

BACKGROUND

California Environmental Quality Act (CEQA) Guidelines (§15126.6) require environmental impact reports to analyze alternatives to the proposed projects. The Energy Commission power plant siting process is a CEQA equivalent process and must also analyze alternatives to the proposed project.

Section 9 of the Application for Certification (AFC) discusses a “no project” alternative as well as alternative sites to the proposed project.

DATA REQUEST

1. Pursuant to the CEQA Guidelines, provide a detailed “no project” analysis. Include an analysis that compares the potential environmental impacts (for all technical subject areas such as agriculture, water resources, geology, etc.) between the proposed project and the “no project” alternative (i.e., a reasonably foreseeable scenario of future uses of the proposed project site). The project site’s land use and zoning designations should be considered when determining a reasonably foreseeable scenario.

BACKGROUND

AFC Sections 9.2.2.2.2 and 9.2.2.2.3 state that Alternative Sites 2 and 3 are too small to support the proposed facility. However, Alternative Site 1 is of sufficient size for the proposed facility.

DATA REQUEST

2. Provide a separate figure clearly illustrating the Alternative Site 1 (Carson Ice-Gen Facility) and how it would be served with water, natural gas, and transmission lines.
3. According to Section 9.2.2.2.1 (page 9-3) of the AFC, Alternative Site 1 is zoned Open Space. However, in Section 9.2.2.3.4 (page 9-5) the AFC states “...zoned land uses for the alternative sites are industrial...” Please clarify the correct zoning for Alternative Site 1.
4. It is difficult to determine Alternative Site 1’s proximity to residential and sensitive receptors based on Figure 9.2-1. According to page 9-6 of the AFC, the alternative sites would potentially affect more people since there are more residential land uses and other sensitive receptors. Please provide a map and/or information that supports this statement for Alternative Site 1.
5. For areas within a 1-mile radius of Alternative Site 1, provide a color map illustrating each of the following: general plan land use designations, zoning ordinance designations, and existing land use types.

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BACKGROUND

The SMUD owned property at Rancho Seco is a 2,480-acre site. Approximately 30 acres would be required for the proposed project.

DATA REQUEST

6. Describe how the proposed 30 acres of the 2,480 acres were selected as the proposed site, and if there are other alternative sites within the 2,480-acre area that would feasibly accommodate the proposed project

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Technical Area: Biological Resources

Author: Melinda Dorin and Rick York

BACKGROUND

In AFC Section 8.2, Biology and 8.14, Water Resources, Clay Creek and the tributaries to Clay Creek are briefly described. The sections state that Clay Creek via Laguna Creek is a tributary to the Cosumnes River, and that the Cosumnes River contains anadromous fish species. In addition, Appendix 8.2B of the AFC contains a letter from NMFS that contains LORS information and a summary of conservation measures, yet the Magnuson-Stevens Act is not listed in Table 8.2-1, no fish species are listed in Table 8.2-4, nor is the National Marine Fisheries Service (NMFS) listed as a contact in Table 8.2-5.

DATA REQUEST

7. Please provide more detail (e.g., habitat types, spawning areas, jurisdictional wetland areas) about the biological resources and fish species found in Clay Creek and discuss the likelihood of anadromous fishes using that stream channel as habitat.
8. Please provide a schedule for when the Biological Assessment will be submitted to NMFS, an estimate of how long consultation may take, and when a draft and final Biological Opinion from NMFS will be provided to the Energy Commission staff. Provide a record of communication with the agency person assigned to the project.
9. Please provide the temperature and total dissolved solids limitations for any threatened and endangered species that may be in the receiving waters.

BACKGROUND

In AFC Section 8.14.4.1, page 8.14-17 and Appendix 8.14A, the discharge of the circulating water system blowdown into Clay Creek is described. It also states that water quality will meet the requirements of the NPDES permit that will be issued.

DATA REQUEST

10. Provide information on whether the blowdown water will be discharged continuously throughout the day, month, and year, and what the rate of flow of the discharge would be when occurring.
11. Provide monthly average water temperatures in Clay Creek and the anticipated temperature of the blowdown water.
12. Provide a map showing the location of the proposed outfall, and describe the habitat within the immediate area of the outfall. Identify other discharges into Clay Creek for the entire section upstream of the project site to the conjunction of Clay Creek with Hadselville Creek downstream of the site.

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13. Provide rate of flow information for Clay Creek. Describe how adding the blowdown water discharge may change the hydrology of the creek and how that may effect the biological resources of Clay Creek.
14. Provide an analysis of the anticipated percentage of the overall volume of water in Clay Creek that the discharge would be on a month-by-month basis.

BACKGROUND

Table 8.2-4 on page 8.2-35 describes a 1.5-acre storm water detention pond. The location of the pond is not mapped in the figures, although it is proposed to be located north of the project site.

DATA REQUEST

15. Provide a figure of the location of the 1.5-acre storm water detention pond.

BACKGROUND

A proposed table of contents of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) is supplied in Appendix 8.2D. In the proposed outline Section 4.4, Wetland Protections, there are subsections that do not correspond to that heading, i.e. Sections 4.4.6 through 4.4.8.

DATA REQUEST

16. Please provide a draft BRMIMP with the following additional sections and include any information in the sections such as impact avoidance measures and proposed mitigation where appropriate.
 - Regional Setting describing all habitats that may be impacted;
 - Biological Resources to be impacted (by species);
 - Construction schedule;
 - Under the existing heading for Mitigation Measures for Sensitive Biological Resources, include subsections that address the proposed species specific mitigation and avoidance measures, for species such as (but not limited to) Swainson's hawks, Western burrowing owls, and anadramous fish species.
 - Habitat compensation measures to mitigate for habitat loss;
 - Move the Habitat Revegetation Plan (4.4.8) to a separate section;
 - Add a section for pre-construction and post-construction aerial photos of the project area at a 1" to 100' scale; and
 - Agency agreements and permits.

BACKGROUND

Appendix 8G of the AFC contains the CNDDB printouts dated 6/18/2001 with the locations of sensitive species near the site.

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DATA REQUEST

17. Provide copies of the CNDDDB forms that were filled out during biological surveys conducted in 2000 and 2001.

BACKGROUND

There are three drainages in the project site that the applicant proposes to reroute. There also may be impacts to Clay Creek, vernal pools along the transmission line corridor (AFC Section 8.2.5), and wetlands along the proposed natural gas pipeline route (AFC Table 8.14-8). AFC Section 8.2.3.2 states that wetland delineations of the project area were completed in April 2000. Wetland areas were depicted in AFC Figures 8.2-1 and 8.2-1R very generally and on a regional scale. USFWS guidance on vernal pools states that indirect and direct impacts are likely to occur when any project is within 250 feet of a vernal pool. Staff does not have enough information to make a final determination on whether direct or indirect impacts may occur to the vernal pools during the construction and maintenance of the transmission towers, gas pipeline, project site, construction laydown area, and water pipeline.

DATA REQUESTS

18. Please provide the wetland delineation surveys that were completed of the site, the construction laydown area, and along all the linear facilities. Include a figure with the delineation points mapped, the wetland delineation data sheets that were completed, a timeline for when the wetland delineation will be submitted to the Army Corps of Engineers for jurisdictional wetland classification, and a discussion of when they expect to initiate consultation with the USFWS.
19. Provide a figure (or aerial photos) with a scale of 1" = 100' outlining the vernal pools and where jurisdictional wetlands occur within 250 feet of the site, the construction laydown area, and along all the linear facilities.
20. Provide a table that estimates the amount of wetland habitat that may be directly or indirectly impacted within the 250-foot buffer.

BACKGROUND

Table 8.2-4 summarizes the permanent and temporary project impacts to biological resources at the site. On AFC page 8.2-14 it states that the proposed 20-acre construction laydown area on the south side of Clay Station East Road has not been evaluated for the potential presence of vernal pools and special-status species. In the AFC the proposed construction laydown area is considered to have a temporary impact.

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21. Provide the timeline for when the proposed laydown area would be initially graded, whether it will be graveled, when the area will be revegetated and how long after the revegetation the restoration will be considered complete.
22. Provide a draft of the laydown area restoration and revegetation plan.
23. Provide information on how the stream channel (that is seen on the aerial photo submitted during data adequacy review), that runs North-South through the proposed laydown area, may be impacted by grading and describe anticipated changes to the hydrology of the area.
24. Identify who did the surveys, methods used, biologist qualifications, dates surveys were completed, field survey results, and any sensitive habitats and sensitive species occurrences found on or near the proposed laydown area.

BACKGROUND

AFC page 8.2-7 states that 16 special-status animals potentially occur in the project area. The section then briefly describes 11 of them and Table 8.2.3 (pages 8.2-30 to 8.2-34) lists 17 special-status animal species.

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25. Please clarify which special-status species may be present within 1 mile of the project site, including the construction laydown area, and within 1000 feet of all project linears.
26. If there are special-status species that were not described in AFC Section 8.2.3 (pages 8.2-7 to 8.2-9), please include information on what habitat types they occupy and what the likelihood of presence is for the project site, laydown area, and linear facilities.
27. Identify whether the species were observed in any of the surveys conducted at the site, the construction laydown areas, or along project linears.

BACKGROUND

The Cosumnes River Nature Preserve is within the region of the proposed project site and AFC Section 8.4 (Land Use) has a brief regional description, but there is limited information for the regional biological resources. On page 8.2-7 of the AFC, the Cosumnes River Nature Preserve is listed as having giant garter snakes (a state- and federally-threatened species) present and there is a map (Figure 6.1-5) that indicates the proposed gas pipeline route will go through the Preserve.

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DATA REQUEST

28. Please discuss all areas of critical concern (as defined in section 1702 (q) of Title 20 of the California Code of Regulations) related to biological resources in the proposed project region (e.g., within 30 miles). For all areas of critical concern, identify the distance from the proposed project site, size (in acres), habitat types, ownership, and sensitive plant and animal species present.

BACKGROUND

On page 8.2-7, in the special-status animals subsection, the AFC states that CNDDDB records indicate that the valley elderberry longhorn beetle (VELB) (state- and federally-threatened species) is likely to occur along the Cosumnes River and other rivers that the proposed gas pipeline may cross. However, the AFC does not contain VELB field survey results.

DATA REQUEST

29. If VELB surveys were conducted for the project site and all project linears, then please provide the survey results (field survey dates, names and qualifications of biologists, transect spacing, locations and size of elderberry shrubs). If VELB surveys were not conducted, then conduct the appropriate (USFWS protocol) surveys and provide the survey results.

BACKGROUND

AFC Section 8.2.4.2 (page 8.2-10), states that although California tiger salamanders have been recorded within a mile of the site, none were observed. The AFC also states if any are disturbed within the project site or along the linear facilities, then it would be an insignificant portion of the population. However, the AFC does not contain California tiger salamander field survey results.

DATA REQUEST

30. If California tiger salamander surveys were conducted for the project site and all project linears, then please provide the survey results (field survey dates, names and qualifications of biologists, transect spacing, locations and size of elderberry shrubs). If California tiger salamander surveys were not conducted, then conduct the appropriate (DFG protocol) surveys and provide the survey results.

BACKGROUND

In AFC Section 8.2.3.3, (page 8.2-7), it states that western burrowing owls often use ground squirrel burrows along railroad tracks and road cuts and that burrowing owls are likely to occur along the railroad tracks west of Franklin Boulevard and along Twin Cities Road. It also states that none were seen on or adjacent to the project site. However, the AFC does not contain western burrowing owl field survey results.

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DATA REQUEST

31. If California tiger salamander surveys were conducted for the project site and all project linears, then please provide the survey results (field survey dates, names and qualifications of biologists, transect spacing, locations and size of elderberry shrubs). If California tiger salamander surveys were not conducted, then conduct the appropriate (DFG protocol) surveys and provide the survey results.

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Technical Area: Cultural Resources

Author: Judy McKeehan

BACKGROUND

The AFC does not provide adequate information on built environment features or facilities that may be more than 45 years old. Additional information is needed to complete the staff analysis.

DATA REQUEST

32. Please identify all structures, facilities and features that are more than 45 years old or appear to be exceptional and are located within 100 feet of the proposed centerline of the gas line. These could include bridges, canals, railroads, roads, and transmission lines. If any of these structures/facilities are more than 45 years old, please have an architectural historian or a historian with a specialty in industrial, architectural or public history complete a Department of Parks and Recreation (DPR) 523A form. If it appears that any cultural resources may be significant, evaluate them for eligibility for the California Register of Historical Resources (CRHR) using additional appropriate DPR 523 forms.

BACKGROUND

It cannot be determined from the AFC and Data Adequacy Responses whether local historical societies and local jurisdictions (cities and counties) were contacted to determine if any historical resources in or near the project area are listed in local historical inventories or registers. Such local inventories are often not reflected in information obtained from a record search at the appropriate Archaeological Information Center. Historical resources listed on county or city inventories may be eligible for the CRHR, even if they have not been formally evaluated. Staff needs this information to complete its analysis.

DATA REQUEST

33. Please provide a list of any historical resources listed on Sacramento County, or SMUD District local inventories or registers within one half mile of the power plant site and within one hundred feet of the center line of all linear routes that are part of the project
34. If local historical societies and archaeological societies were not contacted, please contact them and provide copies of any inquiries and responses from such societies. If contact is made through interviews rather than by letter, please provide a written description of contact methods used, information obtained, and the names and contact information for those interviewed.

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BACKGROUND

Confidential Appendix 8.3 C-2 discusses a record search summary for the Cosumnes Power Plant Project that was conducted through the California Historical Resources Information System (CHRIS). It does not specify which regional Archaeological Information Center(s) were consulted.

The confidential Appendix 8.3C does not include a complete list of technical reports for the resources identified for the Proposed Gas Line Alignment in Appendix 8.3 C-2.

DATA REQUEST

35. Please submit all cultural resources survey reports that provide the methods and results of all surveys conducted for this project. The methods section should indicate the width of each linear survey area. If the survey coverage was less than 100 feet for historic features and less than 200 feet for archaeological features on each side of the centerline of the linear alignments, additional surveys should be completed to attain this coverage.
36. For the surveys conducted specifically for the Cosumnes Power Plant Project, rather than the surveys conducted for other projects, the report appendices should contain resumes of investigators and a letter from the information center where the records search was performed stating they performed the search or that an in-person search was conducted by the applicant's consultant.
37. Provide copies of all DPR 523 site record forms for cultural resources in or within ½-mile of the project and all linear alignments required for the project.
38. Provide the dimensions of the proposed Area of Potential Effects (APE) for the project site and linears.
39. Please provide a plan to avoid (the plan should include, but not be limited to CA-SAC-93) all identified archaeological sites (both prehistoric and historic) within 200 feet and historic sites (built environment) within 100 feet of the plant site, linear routes, laydown, parking areas, and access roads. If it appears that a cultural resource cannot be avoided, provide a test plan for each archaeological resource and complete and provide the evaluation forms DPR 523, as appropriate, for historic resources, pursuant to CEQA Section 15064.5, (a), (3), (A)(B)(C) & (D).
40. On maps 1-6 of Confidential Appendix 8.3D, please identify what areas of the proposed gas line were covered in each report. AFC page 8.3-21 discusses several sections on the route that were almost completely surveyed. Please also add the locations of areas that were not completely surveyed.

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BACKGROUND

AFC Sections 2.2.15, 8.2.4, and figure 2.2.3-3 refer to a potential parking and laydown area south of Clay Road and the project site. No cultural resource survey information is provided for this area.

It is possible that temporary staging and laydown areas and workforce parking for the gas pipeline construction could be placed in areas leased or rented from property owners adjacent to the pipeline easement. Staff needs additional information to determine whether there is the potential for impacts to cultural resources.

DATA REQUEST

41. Please survey and provide survey information for the parking and laydown area south of Clay Road and the project site.
42. Identify the location of any areas that will be used as pipe or equipment staging and laydown areas or for parking, water supply, fire protection waterline, or other purposes. Please provide the results of a cultural resources survey for these areas.
43. If cultural resources are present, please provide completed DPR 523 forms for the resource(s).

BACKGROUND

The AFC, Section 2.4.3 states that a new gas line parallel to the existing SMUD gas line would be required for operation of the second phase of the project. AFC Sections 1.2, and 2.1 indicate that construction of Phase II is within the current schedule. Staff needs additional information about cultural resources that could be impacted by construction of this pipeline. It appears from information provided in the AFC p. 2-25 that the gas line for phase II is part of this project.

DATA REQUEST

44. Please provide the results of a records search that extends _-mile from the centerline of the proposed gas line for Phase II.
45. Please conduct an archaeological pedestrian survey that extends to a minimum of 200 feet on both sides of the proposed center line of the gas line and provide the results. Complete DPR forms 523A for identified resources.
46. Please conduct an historic resources survey that extends to a minimum of 100 feet on both sides of the center line and provide the results. The survey should be conducted by someone who meets the Secretary of the Interior Standards in history or architectural history. Record cultural resources that appear to be 45 years or older on a DPR 523A form and complete additional DPR 523 forms as appropriate for evaluation.

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47. Describe avoidance procedures for any cultural resources that are identified.
48. If it is not possible to avoid the cultural resource(s), please provide an evaluation of the eligibility of the site(s) for the California Register of Historical Resources pursuant to (CEQA Section 15064.5, (a), (3), (A), (B), (C), and (D).

BACKGROUND

AFC Section 8.3.5 proposes that construction monitoring take place in areas of proximity to the cultural resources listed on Table 8.3-4 and in areas of high probability for cultural resources. It is not possible to determine from the present information which areas are to be considered of "high probability", additional information is needed to complete the staff analysis.

DATA REQUEST

49. Please identify the location of areas considered "high probability areas" on maps 1-6 (Confidential Appendix 8.3D).

BACKGROUND

The discussion of cumulative impacts in the AFC does not provide any information on other projects in the area that could impact cultural resources. The discussion of cumulative impacts should consider such other projects. Additional information is needed to complete the staff analysis.

DATA REQUEST

50. Please provide a discussion of other projects (in permitting or currently under construction) within a one-mile radius of the Cosumnes Power Plant project.
51. Please provide a discussion of the cumulative impacts relevant to the information from the previous question.

BACKGROUND

It appears from the content of the letters sent to the Native Americans on the Native American Heritage Commission (NAHC) contact list that the linear routes were not described. It is necessary to inform Native Americans regarding the entire project and linears.

DATA REQUEST

52. Please send an additional letter to members of the Native American Community listed by the NAHC for Sacramento County. In that letter, identify the location of all project linears and provide a map(s) that indicates the project location and location of the linears.

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53. Provide copies of the letters to and responses from Native Americans.

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Technical Area: Geology
Author: Janine Weber Band

BACKGROUND

Upon review of the AFC and of the topographic map of the area, staff is concerned about the safety of the dammed reservoir approximately one mile upstream from the proposed site. The CPP site appears to lie in the inundation zone if the dam were to fail, yet no mention of this dam was made in the report.

DATA REQUEST

54. Please provide a discussion of the geotechnical stability of the dam and potential worst-case scenario, such as a seismic groundshaking event while the reservoir is full.

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Technical Area: Land Use

Author: James Adams

BACKGROUND

AFC Section 8.4.6, Cumulative Impacts, discusses the potential cumulative land use impacts that would result from the proposed project. The AFC discusses existing land uses in the vicinity of the proposed project, but does not identify existing or proposed projects along the proposed linear facility corridor.

DATA REQUEST

55. Please identify and describe the “other major existing land uses” cumulative projects referenced on page 8.4-15 of the AFC.
56. Please provide a map that shows the location of all cumulative projects identified including future projects along the proposed linear facility corridor (i.e., natural gas transmission line, and water line). This should also include projects that have been proposed since June 2001.

BACKGROUND

Section 6 of the AFC discusses the proposed route of the natural gas pipeline. Figure 6.1-1 shows these pipeline routes, several of which appear to enter the City of Elk Grove. There is no discussion of any applicable LORS that may apply to the proposed or alternate gas pipeline routes.

57. Please identify any pertinent LORS that the City of Elk Grove has related to the construction and operation of the proposed natural gas pipeline (proposed and alternate).
58. Please provide figures similar to AFC Figure 8.4-1 for the entire natural gas pipeline route and alternate routes. Please also provide total approximate lengths of each alternative alignment.
59. Please provide a map similar to AFC Figure 6.1-1 with more roads and right-of-ways labeled to clearly discern the proposed and alternate routes described in the text in Section 6.2. Also show the City of Elk Grove City limit line.

BACKGROUND

The proposed site is designated Agriculture, with minimal parcel size of 80 acres (AG-80). The California Department of Conservation, Office of Land Conservation has prepared a rating system for land resources called the California Agricultural Land Evaluation and Site Assessment (LESA). The use of LESA criteria provides a methodology for assessing the potential environmental impact of state and local projects on agricultural lands and its conversion. LESA provides an approach for rating the relative quality of land resources based upon specific measurable features. The California LESA is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource

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quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands.

DATA REQUEST

60. Please complete the California LESA application prepared by the California Department of Conservation, Office of Land Conservation, and provide the application and it's supporting documentation (i.e. maps, soil information, cropping patterns, etc.) to the Energy Commission. The application can be found at <http://www.consrv.ca.gov/dirp/LESA/LESA.htm>.

BACKGROUND

The construction of the natural gas line is an important feature of this project since the proposed route is 26 miles long. More detailed information than provided on Figure 6.1.1 of the AFC is necessary to analyze the proposed and alternative natural gas pipeline alignments.

DATA REQUEST

61. For areas within __-mile on each side of the proposed and alternative natural gas pipeline ROW, provide a map illustrating each of the following:
 - a. General plan land use designations,
 - b. Zoning ordinance designations, and
 - c. Existing land use types.

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Technical Area: Noise

Author: Jim Buntin

BACKGROUND

The applicant presumes that compliance with the 45 dBA criterion of the LORS will be sufficient to avoid a significant noise effect, mitigated by the offer to provide additional sound insulation for affected residences. The applicant's data indicates compliance with the 45 dBA criterion would result in an increase of about 11 dBA to 17 dBA, based upon the L_{90} values measured at Site M1 during the quietest hours of the day and night. This will be excessive in terms of producing a significant change in background noise levels, as the Energy Commission staff has concluded that a potential for a significant noise impact exists where the noise of the project plus the background exceeds the background by 5 dBA L_{90} or more at the nearest location where the sound is likely to be perceived.

However, staff will carefully consider the question of establishing a reasonable and practical noise standard for very quiet environments. With this in mind, it will be useful to know the practical effects of setting a noise standard which allows an increase in background noise levels greater than 5 dBA, while limiting the noise level to the maximum practical extent. For example, the Model Community Noise Control Ordinance prepared by the State Office of Noise Control suggests a nighttime exterior noise level standard of 40 dBA for rural suburban land uses.

DATA REQUEST

62. Please provide an acoustical analysis to address compliance with a noise standard of 40 dBA L_{90} at the nearest residences. Include a listing of any additional required noise control measures.
63. Please provide a map or a listing showing the sensitive receptors that are predicted to be exposed to construction noise levels which exceed the typical daytime ambient L_{90} values by 5 dBA.
64. Please provide a map or a listing showing the sensitive receptors that are predicted to be exposed to plant operation noise levels which exceed the typical quietest ambient L_{90} values by 5 dBA.
65. Using the responses to the two previous questions, please address the question of whether the noise level data collected at site M1 reasonably represent the noise exposure at the residences affected.

BACKGROUND

The AFC indicates that pile driving is not currently anticipated. The AFC further states that pile driving, if required, would be at sufficient distance so that noise and vibration would not adversely affect the nearest residential receptors. Energy Commission staff is concerned that, if pile driving is later deemed necessary, adequate analysis be provided to ensure that there will be no significant noise or vibration effects.

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DATA REQUEST

66. Please provide a description of potential locations for pile driving, and their proximity to residences, should pile driving be required.

BACKGROUND

The AFC indicates that horizontal drilling will be required for the gas line. The Sacramento County Code provides an exemption to the noise standards of Chapter 6.68 for construction during specific hours of the day. The Code further exempts an “unavoidable condition” occurring during a construction project “under conditions which will not jeopardize inspection acceptance or create undue financial hardships.” Since horizontal drilling would be a 24-hour activity, it may be necessary to impose conditions upon this activity to minimize noise effects on residential receptors. To assess the potential for concern, it will be necessary to describe the locations where horizontal drilling will be required, and the amount of time required for such activity at each site.

DATA REQUEST

67. Please provide a description of potential locations where horizontal drilling may be required, and their proximity to residences.
68. Please describe typical time requirements for horizontal drilling at any one site.

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Technical Area: Project Description

Author: Kristy Chew

BACKGROUND

AFC Section 2.4.3, Fuel Availability, states that there is only enough capacity through the interstate line and at the terminal supply for the first phase of the project and that a new line is required for the second phase.

DATA REQUEST

69. Please describe where the new natural gas line and any related facilities (e.g., compressor station) for the second phase would be located. Provide figures at a scale similar to AFC Figure 6.2-1 (approximately 1" = 3 miles) depicting the route of the new natural gas supply line and related facilities.
70. Please provide a schedule for the construction of the new pipeline.
71. Please explain when the information (biological surveys, cultural resource surveys, land uses etc.) required for evaluating the new pipeline will be provided.
72. Please explain why SMUD is not proposing to construct only one pipeline for both phases of the project.

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Technical Area: Traffic and Transportation

Author: James Fore

BACKGROUND

AFC Section 8.10.4.3 for the Cosumnes Power Plant (CPP) provides information on the truck route for hazardous material delivery to the plant site. The truck route described in the AFC does not indicate the roadway conditions or if there are any sensitive receptors in the area.

DATA REQUEST

73. Please specify the location of any sensitive receptors along the route such as schools, hospitals, commercial, or housing development that may be on the route and/or impacted by its operation.

BACKGROUND

The AFC for the CPP indicates that natural gas fuel will be supplied for the project from Pacific Gas and Electric (PG&E) pipelines 400 and 401 located near Winters. The CPP natural gas pipeline extension will originate at the Carson Ice-Gen Project near Elk Grove, with a 24-inch natural gas pipeline to the CPP. The pipeline route will be approximately 26 miles. The AFC provides information on the pipeline route, but does not indicate traffic conditions associated with the roadways impacted or what action will be taken to ensure minimal disruption to traffic along the route.

DATA REQUEST

74. Please provide information on the impact that the proposed PG&E pipeline extension will have on traffic associated with the various roadways involved for the proposed route as well as alternate routes. This would include:
 - a. a description of the affected roadways,
 - b. the current level of service (LOS) for roadways impacted by the pipeline route,
 - c. the location of the pipeline within the roadway,
 - d. the number of traffic lanes to be closed,
 - e. the amount of roadway under construction at any one time.
 - f. the impact on traffic flow,
 - g. anticipated traffic control measures that will be used, and
 - h. discussion of the type of construction activity.

COSUMNES POWER PLANT (01-AFC-19)
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BACKGROUND

AFC Section 8.10.3.2 identifies that Sacramento County has public transportation and bicycle routes throughout the county but does not indicate if the CPP will impact any of the facilities during construction or operation.

DATA REQUEST

75. Please supply information on any public transportation routes or services in the area that will be impacted. This would include bus routes and park and ride parking areas.
76. Please identify any roadways with bicycle routes and the impact the construction and/or operation of the facility would have on the routes.
77. If bicycle routes exist on any of the roadways impacted, indicate what steps will be taken by the applicant to ensure safe use of the affected bicycle facilities.

BACKGROUND

AFC Section 8.10.4.2 indicates that roads referred to as the “primary roadways” to and from the project site (i.e., Clay East Road, Twin Cities Road and SR 99) will experience the greatest traffic volume. This section also indicates that existing vehicle occupancy levels are estimated to be 1.3 persons per vehicle during commute hours based on 1990 census data. The section also concludes that the project will result in minimum traffic impact for the area roadways, without indicating the trip distribution expected for the construction workforce.

DATA REQUEST

78. Please indicate the expected traffic route for the construction workforce along with the estimated volume of traffic associated with each route.
79. Please provide information based on SMUD experience with construction projects to substantiate the assumption of 1.3 persons per vehicle.

BACKGROUND

AFC Section 8.10.4.2 indicates that the number of truck trips associated with construction material for the project are expected to be low, an estimated 10 trucks per day, with a maximum of 20 trucks daily. Later in the section additional truck trips are identified for the delivery of hazardous materials and the removal of waste for disposal. It is not clear if the estimated 10 truck trips with a maximum of 20 truck trips, include only construction materials or all truck trips.

COSUMNES POWER PLANT (01-AFC-19)
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DATA REQUEST

80. Please provide a table indicating the number and type of truck trips per month that the project will generate during construction.

BACKGROUND

The AFC does not indicate if the project will have an impact on air traffic. There are several local landing strips for small airplanes located throughout Sacramento County. The Sunset Sky ranch Airport is one example located northwest of the CPP.

DATA REQUEST

81. Please supply location information (i.e., addresses, or location near mapped roads) for airport facilities in the area.
82. Please discuss the steps the applicant will take to ensure that the power plant's stacks do not present a traffic hazard to these local airports.

BACKGROUND

AFC Section 8.11.5.3.3 indicates the potential for vapor plumes to be emitted by the facility. There is a potential for visibility impairment to traffic due to vapor plumes produced by the project reaching ground level, or casting shadows that could cause drivers to be temporarily blinded by a sudden change in light intensity. This may affect traffic safety on the local roadways in the vicinity of the project site.

DATA REQUEST

83. Please provide information based on your plume analysis for:
- a. the roadways that might be impacted,
 - b. the expected frequency and duration of traffic impacts from ground fog or shadows, and
 - c. the traffic safety issues resulting from the plumes.
84. Please discuss the applicant's plans for mitigating any traffic safety and visibility impacts caused by vapor plumes.

BACKGROUND

AFC Section 6.0 describes the proposed natural gas pipeline route as using the Western (Union) Pacific Railroad right-of-way (ROW).

DATA REQUEST

85. Please provide a description of the coordination efforts with Union Pacific Railroad for ROW approval. Also provide contact information for the Union Pacific Railroad staff coordinating the ROW approval.

COSUMNES POWER PLANT (01-AFC-19)
DATA REQUESTS

Technical Area: Transmission System Engineering

Author: Laiping Ng

BACKGROUND

On page 2 of the Cosumnes Power Plant Transmission System Impact Study (SIS), it states that “the proposed Roseville and Colusa generation projects were not included”. The Colusa Power Plant and the Roseville Power Plant are proposed to be online/operational by the second quarter 2002 and the fourth quarter 2004, respectively. The Cosumnes Power Plant is proposed to be online during the first quarter of 2005 for Phase I and by first quarter 2008 for Phase II. Staff needs additional documentation and information regarding the System Impact Study for the year 2007 and proposed mitigation measures in order to prepare the Staff Assessment for the Cosumnes Power Plant.

DATA REQUEST

86. Please include the Colusa and Roseville projects in the SIS. Analyze the system impact with and without the project during peak and off-peak system conditions, which will demonstrate conformance or non-conformance with the WSCC and NERC reliability and planning criteria with the following provisions:
 - a. Identify major assumptions in the base cases including imports to the system, major generation and load changes in the system and queue generation.
 - b. Analyze system for N-0, important N-1 and critical N-2 contingency conditions and provide a list of criteria violations in a table showing the loadings before and after adding the new generation.
 - c. Provide a list of contingencies evaluated for each study.
 - d. Provide power flow diagrams (MW, % loading & per unit voltage) for base cases with and without the project. Power flow diagrams must also be provided for all N-0, N-1 and N-2 studies where overloads or voltage violations appear.
 - e. List mitigation measures considered and those selected for all criteria violations.
 - f. Provide electronic copies of *.sav and *.drw PSLF files.

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DATA REQUESTS

Technical Area: Visual Resources and Plumes

Authors: Michael Clayton and William Walters

BACKGROUND

Staff will need to make use of the Applicant's figures presented in the AFC and supplemental filings.

DATA REQUEST

87. Please provide three sets of electronic files on CDs of the following figures or their revisions: 1.1-2, 1.1-3, 1.1-4, 1.1-5, 2.2-2, 2.2-3, and all figures contained in the Visual Resources Section of the AFC.
88. Please provide three sets of electronic files on CDs of the revisions to existing figures and new figures as requested in the following Data Requests.

BACKGROUND

Natural gas for the facility would be delivered by a 26-mile pipeline, extending west and then north from the project site to the Carson Ice-Gen Facility. The pipeline route would pass through areas that are characterized as urban residential, rural residential, light industry, agriculture, and open space (AFC p. 8.11-3).

DATA REQUEST

89. Please explain whether or not any aboveground facilities would be required for the gas pipeline including pump stations and/or valves. If so, please identify their locations and describe the facility characteristics including dimensions.
90. Please identify the number of residences that would have views of the pipeline route during construction and the proximity of those residences to the route.
91. For a typical pipeline construction spread, please describe the construction equipment to be used, the length of a typical spread, and the amount of time a typical spread would be visible at any one location along the route.

BACKGROUND

Water for the proposed project would be obtained from an existing pipeline from the Folsom-South Canal (AFC p. 8.11-7) and would not require off-site pipeline construction. However, a package water treatment plant would be required to treat the water from the canal (AFC p. 1-1).

DATA REQUEST

92. Please identify the location of the package water treatment plant and describe its visual character including physical dimensions.

COSUMNES POWER PLANT (01-AFC-19)
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BACKGROUND

As noted in the AFC (p. 8.11-1), the proposed project site is located immediately south of the Ranch Seco Power Plant.

DATA REQUEST

93. Please identify the height of the existing transmission towers that would be paralleled by the proposed transmission towers. The referenced towers are visible in the existing conditions photograph for KOP 1, which is presented in the AFC as Figure 8.11-2a.

BACKGROUND

Figure 2.2-2 provides elevation views of the proposed project but does not show structure heights except for the HRSG stacks (though structure heights are provided in a data adequacy response).

DATA REQUEST

94. Please revise Figure 2.2-2 to specify structure heights.

BACKGROUND

Four key observation points (KOPs) were established in order to evaluate both the visual setting and the potential for project-induced visual impacts. Photographs were obtained at each KOP and presented along with visual simulations of the proposed project. In order to accurately represent the views that would be experienced at each KOP, staff considers 18 inches to be an appropriate reading/viewing distance for all KOP images. However, the images presented (setting photographs as well as simulations) are presented at less than life-size scale when viewed at the 18-inch reading/viewing distance. Although reading/viewing distances of 12 and 13 inches are specified for the images presented in the AFC, the images are still approximately 10 to 15 percent undersized based on field verification. The presentation of images at a reduced scale understates the prominence of visible landscape features as well as potential visual impacts.

DATA REQUEST

95. Please re-scale the setting and simulation images for KOPs 1 and 2 to achieve life-size scale when viewed at a standard reading/viewing distance of 18 inches. If re-scaling results in substantial degradation of the image, please provide new high resolution setting and simulation images at life-size scale. After obtaining appropriately scaled images, please provide five photocopies of high quality 11"x17" color images of the existing views and simulations.

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BACKGROUND

Figure 8.11-2b provides a simulation of the proposed project as viewed from KOP 1. However the simulation shows the previously proposed H-frame transmission structures and not the currently proposed tubular style.

DATA REQUEST

96. Please revise Figures 8.11-2b (KOP 1) and 8.11-3b (KOP 2) to show the currently proposed tubular transmission towers.
97. Please specify the heights of the currently proposed tubular transmission towers.

BACKGROUND

Section 8.11.4.3.2 addresses the project landscaping that is to be installed along the southern perimeter of the project site but provides minimal description of the landscaping including the species to be planted and times to maturity. Figure 8.11-2b provides a simulation of the proposed landscaping at 20 years from KOP 1. The landscaping along the southern perimeter of the site is ineffective in screening project structures from nearby residential views. Also, it should be noted that staff considers any project-induced visual impact extending beyond five years after completion of project construction to be a long-term visual impact.

DATA REQUEST

98. Please provide additional detail about the landscape plan including species to be planted and times to maturity.
99. Please provide a revised landscape plan to include landscape screening along the western perimeter of the site.
100. For KOPs 1 and 2, please provide five photocopies of high-resolution 11"x17" color images of life-size scale simulations of the revised landscape screening vegetation along the western perimeter at five years of growth and 20 years of growth.

BACKGROUND

The AFC discusses the need for project night lighting and the controls that would be utilized to minimize the visibility of night lighting (AFC p. 8.11-9). The AFC also states that the current lighting levels at the Rancho Seco Power Plant are approximately 75 percent of the operating plant lighting level. However, the discussion of lighting does not describe the extent to which existing night lighting is visible from nearby viewing locations or the extent to which proposed project night lighting would be visible to those same locations.

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DATA REQUEST

101. Please describe existing visible night lighting at the project site and the Rancho Seco Power Plant.
102. For KOPs 1 and 2, please provide photocopies of high-resolution 11"x17" color images of life-size scale existing nighttime setting photographs to show existing night lighting levels at the project site and Rancho Seco Power Plant.
103. Please describe the extent to which night lighting during project operation would be visible from each KOP. Also, please describe the visibility of project components (including exhaust stacks and vapor plumes) due to illumination from: a) existing ambient lighting and b) the combination of existing ambient lighting and proposed project lighting.
104. Please identify whether or not facility stack lighting would be required and if so, by which agency or requirement, and in what manner.
105. Please describe night lighting to be used during project construction.

BACKGROUND

The AFC discusses the formation of water vapor plumes associated with the proposed project (AFC pp. 5.12-15 and 13) but does not identify whether or not there are any existing sources of plumes in the immediate project vicinity or region.

DATA REQUEST

106. Please verify if there are any other plume sources within five miles of the proposed project site. If plume sources exist, then please describe them and provide a map with the plume locations indicated.

BACKGROUND

AFC Section 8.11.5.3.3, pp. 8.11-12,13, states that the plume frequency of the project would be minimal. However, no further information is given to substantiate that claim. Staff requires cooling tower and HRSG operating data to model the plume frequency and plume dimensions to determine the potential significance of the project's visible water vapor plumes.

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DATA REQUEST

107. Please complete the following table of operating parameters for the cooling tower:

Table 1

Parameter	Value
Maximum Design Inlet Air Flow Rate (kg/s)	
Maximum Heat Rejection Rate (MW)	
Design Liquid to Gas (L/G) Mass Ratio	

108. Please provide, at a minimum, the operating exhaust temperatures and exhaust flows from the cooling tower that correspond to the following ambient conditions (*a similar set of ambient conditions may be substituted for the values specified as long as they represent the range of ambient conditions expected at the site*). The values presented should correspond to maximum anticipated heat rejection at the specified ambient conditions.

Table 2

Ambient Condition	Exhaust Flow Rate (lbs/hr/cell)	Exhaust Temperature (°F)
Full Turbine Load		
20°F. 90% RH		
20°F. 60% RH		
20°F. 30% RH		
50°F. 90% RH		
50°F. 60% RH		
50°F. 30% RH		
80°F. 90% RH		
80°F. 60% RH		
80°F. 30% RH		

109. For staff to conduct CSVP modeling of the plume abated HRSG exhaust, please provide, at a minimum, HRSG exhaust parameter data to complete the following table (*a similar set of ambient conditions may be substituted for the values specified as long as they represent the range of ambient conditions expected at the site*). The values must correspond to full turbine load operating conditions at the specified ambient conditions.

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Table 3

Ambient Condition	Moisture Content (% by weight)	Exhaust Flow Rate (lbs/hr)	Exhaust Temperature (°F)
Full Turbine Load, including Inlet Air Fogging for appropriate ambient temperatures			
20°F, 90%			
20°F, 60%			
20°F, 30%			
50°F, 90%			
50°F, 60%			
50°F, 30%			
80°F, 90%			
80°F, 60%			
80°F, 30%			
50% Turbine Load, including Inlet Air Fogging for appropriate ambient temperatures			
20°F, 90%			
20°F, 60%			
20°F, 30%			
50°F, 90%			
50°F, 60%			
50°F, 30%			
80°F, 90%			
80°F, 60%			
80°F, 30%			

110. Please identify the minimum ambient temperature where inlet air fogging will be used.

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Technical Area: Water and Soil Resources

Author: Philip Lowe, P.E., Greg Peterson, P.E., & Richard Latteri

BACKGROUND

According to the AFC, the proposed Cosumnes Power Project (CPP) will require approximately 8,000 acre-feet of water in a typical year with peak annual demands as high as 9,000 acre-feet per year. During normal operation, 97 percent of the total water requirements for the CPP are for cooling water. The Sacramento Municipal Utility District (SMUD) intends to use high quality American River water from the Folsom South Canal for cooling purposes. Such use of fresh water for cooling purposes is discouraged in accordance with the California Water Code.

Alternatives to wet cooling and other sources of water supply must be more fully evaluated. The AFC provides only a limited discussion of alternatives (AFC pages 7-7 and 7-8) relating to State Water Resources Control Board's Resolution 75-58. The use of inland wastewater from the Galt Wastewater Treatment Plant (GWTP) and the Sacramento Regional Wastewater Treatment Plant (SRWTP) were rejected in the AFC as environmentally unacceptable and economically unsound but there is no information provided as to what the actual environmental impacts and costs would be, and why these were considered prohibitive. State Water Resources Control Board (SWRCB) Policy 75-58 requires studies to include analysis of cost and benefits of alternative supplies (that are reasonably available) and cooling alternatives.

The applicant's proposed use of wet cooling with 3 to 10 cycles of concentration results in significantly greater consumption of a high quality surface water and effluent discharge than comparable power generating facilities. These impacts can be reduced with higher cooling tower concentration cycles and/or other water conservation alternatives. A more thorough assessment of alternatives is needed. In addition, the applicant does not yet have a U.S. Bureau of Reclamation (USBR) contract for Central Valley Project (CVP) water after 2012, and the USBR is currently preparing an Environmental Impact Statement on the use and allocation of American River water, and thus availability is not yet assured for the life of CPP.

Surface water requirements can be reduced with the use of reclaimed water, as well as with the use of cooling alternatives. An assessment of alternatives, as required by California Water Code Section 13550 et seq. and SWRCB Policy 75-58, will help show the most effective method to reduce make-up water requirements.

DATA REQUEST

111. Please provide details on the feasibility of alternative water supply and cooling methods in comparison to the proposed use of Folsom South Canal water. The analysis should include, as a minimum:
 - a) The use of treated wastewater from the GWTP and SRWTP;
 - b) Drilling an onsite supply well;
 - c) Imported brackish or irrigation return water;

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- d) Hybrid wet-dry cooling or spray-enhanced dry cooling (to reduce make-up water by at least 25 to 50%);
 - e) Wastewater zero-discharge; and,
 - f) Recovery of water from cooling tower blowdown by use of reverse osmosis (RO), evaporator, direct osmosis, or other concentration process.
112. The analysis should include a discussion of the following:
- a) Alternative water sources currently available and projected to be available over the life of the project;
 - b) Impacts of water use and wastewater discharge in comparison to those currently proposed for the project;
 - c) Economic impacts (capital and operating costs including water purchase and infrastructure price);
 - d) Changes in plant and linear facility infrastructure; and,
 - e) Changes in plant efficiency and output.
- Data and results should also be summarized and presented in tabular form.
113. What constituent(s) limit wet cooling tower cycles of concentration? What scale inhibitors and dispersants would be used at 3, 5, 10, 15, and 20 cycles of concentration?
114. What forms of silica are anticipated in the make-up water supply? What is the projected Silt Density Index (SDI) and how will this be accommodated in the RO process? What chemicals will be added to optimize the RO process? How will RO cleaning water be managed?
115. Twenty cubic feet per second (cfs) or 39.7 acre-feet per day (AF/d) of City water rights were assigned to SMUD in 1957 for users serviced by the Folsom South-Canal, but CPP peak demand will consume most of these water rights or 34 AF/day (7,706 gpm at 104°F, 3 cycles). Are there any SMUD users, such as Rancho Seco Plant (RSP) that would compete for the original water rights? What is the RSP water demand after CPP start-up? Would the 1,750 cfs minimum Lower American river flow shown in Table 8.14-2 be affected by the CPP water use?
116. Will the CPP be able to secure a contract augmentation for additional water from the USBR if needed?
117. What is SMUD's projected water demand for all other water uses over the next 40 years on an annual and peak week basis? How will this demand be met in the event that the USBR contract is not renewed? How will this demand be met under 7Q10 conditions? Will Clay Creek, Hadselville Creek, Laguna Creek, Cosumnes River, or other dry weather stream flows be impacted by these future demands?

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BACKGROUND

Construction of the CPP may induce water and wind erosion at the power plant site. Surface water runoff is to be directed around the construction site to minimize erosion and pollutant loading. A Storm Water Pollution Prevention Plan (SWPPP) will be required for construction. The AFC (Pages 8.14.15 and 8.14.16) states that approximately 50 acres of land will be graded, plus approximately 20 acres of land used as a laydown area. The laydown area is described as including ephemeral streams that would have to be crossed in some manner. It is stated that a SWPPP will be provided to the County and will describe mitigation measures to avoid or minimize erosion and sedimentation to a level less than significant. Typical Best Management Practices (BMPs) are described in the AFC, particularly in Section 8.9.5, but few are specific to the CPP site.

DATA REQUEST

118. Please provide a draft Storm Water Pollution Prevention Plan (SWPPP) consistent with the requirements for a General Storm Water Construction Activity Permit that identifies measures that will be implemented to control wind and water erosion related to CPP construction for all ancillary and or linear facilities. The plan shall describe all temporary and permanent construction BMPs, calculations and assumptions used in determining drainage or containment structure sizes, capacity and appropriate BMPs, and show conceptual design and locations proposed for these BMPs. Also, include in this draft plan a potential contaminate spills prevention and countermeasure plan.
119. Please provide a draft erosion control plan for plant operation to include practices and conceptual designs with appropriate back-up calculations for avoiding or minimizing CPP-induced or exacerbated wind and water erosion on bare areas of the CPP site, in the diverted stream channels, and at locations of flow concentration for plant drainage.
120. Please provide written evidence of consultation with Sacramento County regarding conformance with County regulations and policies for the proposed grading plan and storm water facilities. If consultation has not occurred, please provide a schedule of when County comments on the grading plan and storm water facilities will be provided to the Energy Commission.

BACKGROUND

Section 8.14.5.1 of the AFC states that stormwater that falls within the developed CPP site during construction and operation may potentially dissolve oils, grease, and other contaminants and carry them along with entrained sediments into Clay Creek. A Notice of Intent (NOI) is required to demonstrate compliance with the General Permit for Discharges of Storm Water Associated With Industrial Activities. The NOI will include a SWPPP that describes BMPs that will be used to reduce industrial stormwater

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contamination. Section 8.14.5.1 of the AFC describes the detention basin as a BMP, but there is no single description of all BMPs that would be included in the NOI. Since there is a potential for stormwater contamination, staff needs a description of: potential sources of contamination; receiving waters; management practices intended to prevent or minimize contamination; and probable effect of BMPs on reducing contamination that are outside the NPDES process.

DATA REQUEST

121. Please provide a preliminary SWPPP consistent with the requirements of the General Permit for Discharges of Storm Water Associated With Industrial Activities that includes:
 - a) a site map,
 - b) a list of significant materials handled and stored at the site,
 - c) a description and assessment of potential pollutant sources,
 - d) a description of proposed storm water BMPs intended for use at the site, and
 - e) a description of proposed BMP goals and monitoring protocol for achieving intended goals.
122. Stormwater mitigative measures shall be addressed in the SWPPP and should include;
 - a) storm drain inlet protection to prevent sedimentation-laden runoff from disturbed soil,
 - b) silt fence or straw bail barriers at less than 250 foot spacing,
 - c) secondary containment for hazardous materials,
 - d) designated storage areas for construction wastes,
 - e) a spill prevention and control plan,
 - f) storage of all liquid wastes in covered containers,
 - g) emergency spill containment kits,
 - h) routine maintenance of oil/water separator system,
 - i) use of geotextiles and mats to stabilize slopes,
 - j) soils stabilizers to minimize dust, and
 - k) temporary and permanent vegetation strategies.

Additional measures may be needed to meet special Inland Surface Waters Plan requirements.

BACKGROUND

AFC Section 8.14.3.1 states that perennial flow in Clay Creek originates west of the CPP site where wastewater from the Rancho Seco Plant discharges into Clay Creek at the rate of approximately 20 cfs (13 mgd). This discharge contains irrigation runoff, processed radioactive water, treated wastewater, and heating tower blowdown. Dilution water is added from the Folsom-South Canal, but the total Clay Creek discharge is not

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given. Clay Creek flows into Hadselville Creek, which flows into Laguna Creek, which flows into the Cosumnes River. The Cosumnes River is described as flowing 2,000 cfs most of the year, but flows in the other creeks are not given.

The proposed CPP will introduce another 3.6 cfs of cooling tower blowdown and stormwater (on average) into Clay Creek, increasing Clay Creek discharge by approximately 20% (not including dilution water). The effect of this additional discharge on Laguna and Hadselville Creeks is not known nor is the resulting effect on overall water quality known for those creeks.

DATA REQUEST

123. Please provide an estimate of the relative contribution of the CPP discharge on Clay Creek, Hadselville Creek, Laguna Creek and the Cosumnes River by season and describe the resulting effect on water quality for those streams.
124. Please provide records of Folsom-South Canal, Rancho Seco Plant and Clay Creek discharges over the past year to verify background discharges and water use.

BACKGROUND

Portions of Clay Creek, Hadselville Creek, Laguna Creek and the Cosumnes River may be effluent-dependent water bodies managed under RWQCB's Inland Surface Waters Plan. Section 8.14.3.1 states that the proposed CPP surface discharge has the potential to impact in-stream and water supply beneficial uses including industrial, agricultural, and municipal water supply; groundwater recharge; freshwater replenishment; aesthetic enjoyment; recreation; preservation and enhancement of fish, wildlife, and other aquatic resources including threatened and endangered species (Chinook Salmon and Delta Smelt). The NPDES permitting process can be lengthy and specific water quality objectives have not yet been established. Additionally, the RWQCB has indicated that effluent discharge criteria could be "very stringent" after incorporating allowances for long-term and indirect impacts such as bioaccumulation and carcinogenicity on threatened and endangered species and potential drinking water uses.

With yet-to-be-defined "very stringent" discharge criteria, it is prudent to consider available alternatives. A conservative assessment of alternatives is needed to find the most effective method to meet the expected "very stringent" discharge requirements.

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125. What process will be used to add/delete beneficial downstream uses, per the Inland Surface Waters Plan and other applicable requirements?
126. Will background water quality influence water quality objectives or will they be considered effluent dependent? What is the monthly influence of Rancho

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Seco Plant (RSP) effluent, natural runoff, Folsom-South Canal, and other reservoir releases on the background water quality parameters of surface streams? If unknown, how will baseline background water quality parameters be established? Will these change after RSP decommissioning, CPP start-up, and other relevant basin development?

127. Will habitat maintenance (maximum/minimum flows) be addressed? Will water quality objectives and effluent discharge standards vary seasonally? How will stormwater standards be established?
128. Please provide the most recent Inland Surface Waters Plan water quality objects (including projected arsenic levels) and a copy of relevant Effluent-Dependent Waters (EDW) Task Force recommendations if one or more of the following methods will be used to define specific water quality objectives; Total Maximum Daily Load (TMDL) analysis, EDW-Specific Water Quality Objectives, EDW-Specific Uses, or UAA (Use Attainability Analysis).
129. Some indicator parameters monitored at other ephemeral and effluent-dependent ecosystems have included; pH, direct osmosis, turbidity, total suspended solids, oil & grease, ammonia, arsenic, cadmium, copper, lead, diazanon, zinc, molybdenum, phthalates, silver, pesticides, ammonia, phosphate, selenium, boron, TDS, discoloration, fungi/slime/other objectionable growth, taste & odor, and coliform. Please define which constituents are expected be monitored, the averaging period, the implementation procedures, and monitoring and reporting requirements.
130. Please explain how California Department of Fish and Game (CDFG) and U. S. Fish and Wildlife Services (USFWS) requirements will influence the permitting process particularly regarding bioaccumulation and carcinogenicity as well as degradation of aquatic communities. Will whole effluent toxicity (WET) testing be required on a real-time or periodic basis?
131. What short-term contingencies such as storage, diversion, or control options are available if the discharge is not in compliance with the NPDES permit?
132. What is the schedule for issuance of the draft and final NPDES permit?

BACKGROUND

Section 8.14.5.1 of the AFC describes a detention basin intended to maintain post-development discharges from the CPP at pre-development levels. According to the Data Adequacy Supplement dated November 13, 2001, the detention basin would be designed for a volume equal to the difference between the pre-development and post-development 10-year, 24-hour flood volumes, or 100,000 cubic yards of water. It is presumed that this is an error, and that the actual design volume is 100,000 cubic feet, which would be consistent with the difference in ten-year flow volume between AFC tables 8.14-6 and 8.14-7. According to the AFC Supplement, the detention basin

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design, which would include an oil/sediment separator, would be consistent with Bay Area Stormwater Management Agencies Association (BASMAA) recommended BMPs for extended detention ponds.

The volume required for an on-line detention basin such as this one is not necessarily the same as the difference in total flood volume. The AFC Supplement states the detention basin would drain in 24 hours but does not give the design discharge from the detention basin nor is the pre-development peak discharge rate given. The detention basin would include a spillway in case of overflow, but the location and design of this spillway is not given. Based on Figure 8.14-4R, it appears the detention basin would be contained by an earthen embankment. Overflow of the earthen embankment, unless protection is provided in an armored spillway, could result in sudden failure of the embankment and release of all detained waters at once.

DATA REQUEST

133. Please provide the hydrologic back-up calculations, including mapped watershed areas, peak discharge rates and hydrographs that led to the flood volumes given in Tables 8.14-6 and 8.14-7. Show pre-development and post-development peak discharge rates, hydrographs and flood volumes assuming no detention basin. Include cooling tower and landscape areas in these calculations even though the post-development discharges and volumes may be the same as pre-development volumes.
134. Please provide a hydrologic reservoir routing analysis for the proposed detention basin showing how the basin will achieve the desired reduction in peak discharge rate. What will be the proposed design discharge and time to drain of the detention basin?
135. Please provide more discussion of the rationale for using the 10-year, 24-hour design for the detention basin. Include a discussion of any other applicable detention design requirements (i.e., Sacramento County) that may be more stringent than BASMAA.
136. Please provide a conceptual design of the detention basin embankment and spillway including overflow analysis using the proposed hydraulic characteristics of the spillway and the hydrologic and reservoir routing techniques described in Data Requests #133 and #134 above for at least the 25-year, 50-year and 100-year flood hydrographs (include discharges greater than the 100-year if the spillway design discharge is greater). Describe what will be the spillway design discharge, include a rationale for selecting that discharge and include an assessment of the risk and potential consequences of spillway or embankment failure resulting from discharges exceeding the spillway design discharge. Include a conceptual spillway armoring design and a scour analysis to demonstrate the adequacy of the proposed armoring to

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protect against undermining through plunging flows on the downstream side of the spillway.

137. In light of possible “very stringent” NPDES effluent discharge criteria, please describe the anticipated stormwater discharge criteria or discuss whether stormwater will be managed under the same criteria as cooling tower blowdown and other waste streams. How will detention pond and oil/water separator effluent be monitored prior to discharge? What contingency is planned to assure that site stormwater will be able to meet the “very stringent” discharge criteria?
138. Please show all proposed and existing contours on grading plans. Show all pipeline, drainage features and laydown areas. Please provide a figure that distinguishes areas that will be routed to: the blow-down treatment systems, the stormwater detention pond, and other remaining areas.
139. How will floating oil and debris be removed from stormwater runoff on a routine basis? How will settled solids be removed from the stormwater detention basin without increasing the risk of an effluent violation?
140. To reduce the impact of a stormwater discharge on downstream users, could a portion of the stormwater detention pond effluent be used as cooling tower makeup?

BACKGROUND

The AFC commits to using secondary containment and curbing for all chemical storage areas.

DATA REQUEST

141. How will spill containment will be provided for each chemical truck unloading station that will collect spills from the largest delivery truck plus the 25-year, 24-hour storm event?
142. Please describe how sufficient spill storage volume will be provided to contain spills for the largest supply truck and storage tank at respective locations.

BACKGROUND

The AFC demonstrates through FEMA Federal Insurance Rate Maps that the CPP is not within the 100-year floodplain of Hadselville Creek (AFC Section 8.14.3.3). However, the absence of a FEMA-mapped floodplain does not necessarily mean a site is not subject to flooding. The CPP is adjacent to Clay Creek, which apparently has not been mapped by FEMA, and therefore has a 100-year floodplain of unknown extent. Several tributaries to Clay Creek cross the CPP site and the extent of flooding is also unknown. The AFC states and Figure 8.14-4R shows that several of these drainageways will be diverted around the CPP site but discharges and floodplains are

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not shown. Figure 8.14-4R shows a corner of the proposed detention basin very close to the creek bank where it could be subject to erosion from creek overbank flows.

DATA REQUEST

143. Please provide a hydrologic analysis to determine the estimated 100-year peak discharge rates for Clay Creek and its tributaries adjacent to and upstream of the site.
144. Please provide a hydraulic analysis using the USACE HEC-RAS (or other appropriate methodology) to map the 100-year floodplain for Clay Creek and its tributaries at, adjacent to, and upstream of the site.
145. Show existing and 100-year floodplains on Figure 8.14-4R, and provide conceptual design hydraulic calculations and typical sections for diversion channels.
146. At locations where the 100-year floodplain would encroach on proposed site features, please demonstrate whether erosion or other protection is needed and provide conceptual plans and analysis as appropriate.

BACKGROUND

Section 8.14.5.1 of the AFC describes impacts to three tributaries to Clay Creek and states that these drainageways are probably jurisdictional under Section 404 of the Clean Water Act. The AFC states that a 404 Permit will be required (as well as 401 Water Quality Certification) and that an environmental assessment will be performed and mitigation measures developed as a condition of obtaining these permits. The AFC describes how the proposed gas pipeline will cross a number of streams which are probably jurisdictional.

DATA REQUEST

147. Please provide a mapping of all proposed impacts to riparian areas along with a description of the types and quantities of riparian resources to be affected such as increased sediment load in streams or reduced bank stability from trenching and the proposed specific mitigation measures.
148. Please provide evidence of consultation with the USCOE, RWQCB, and CDFG regarding the proposed riparian disturbance. Evidence of consultation should include applications for a 404 Permit, 401 Water Quality Certification, and a California Fish and Game Code 1601 Streambed Alteration Agreement.

BACKGROUND

According to the AFC (page 8.14-17) the proposed gas pipeline will cross 27 rivers, creeks, irrigation canals, riparian areas, vernal pools, and other drainages that are

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potentially jurisdictional wetlands including the Cosumnes River which, according to the AFC, can reach up to 35,000 cfs during storm events. During floods, river bed and bank scour could reach the depth of the pipeline and cause a rupture. One way to minimize the risk of this type of rupture is to bury the pipeline below the expected bed scour depth for a distance beyond the stream banks sufficient to avoid expected lateral erosion. The burial depth would affect trench width, which would affect riparian impacts.

DATA REQUEST

149. Please provide mitigation measures for avoiding damage to the pipeline from 100-year bed and bank scour at river crossings. Please provide the pipeline depth and an estimate of the 100-year scour depth and extent of bank erosion with supporting calculations for all streams to be crossed. The analysis should include a description of expected trench width and length of crossing below scour depth to be used in the assessment of riparian and vegetative impacts.

BACKGROUND

No mass & heat balances were provided in the AFC, thus it is uncertain whether the applicant proposes to use supplemental duct firing, which increases water consumption.

DATA REQUESTS

150. Please provide heat and material balances for average and 99% conditions according to the American Society of Heating Refrigeration, and Air Conditioning Engineers (ASHRAE) standards. Please describe the peak make-up water rate with and without supplemental firing with emphasis on annual water use, maximum month, and instantaneous peak day.

BACKGROUND

Page 27 of the CPP Data Adequacy Response states that SMUD has a contract for 75,000 AFY of USBR water from the Folsom South Canal. During operation, the Rancho Seco Plant used approximately 28,000 AFY. Since closure, the plant has used approximately 15,000 AFY; and as with all USBR customers, water that is not used by SMUD is made available for other Central Valley Project (CVP) uses. Currently, the CVP dedicates 800,000 AFY year to fish and wildlife and 410,000 AF to State and wildlife refuges and wetlands pursuant to the Central Valley Project Improvement Act (CVPIA).

Per CVP policy, SMUD's unused RSP water has been made available for other CVP uses. With the proposed CPP using approximately 8,000 AFY with peak annual demands as high as 9,000 AFY, it is possible that this renewed use of American River water will decrease water currently used to meet Delta water quality standards or other fish and wildlife uses.

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151. In tabular form, please provide historical annual consumption by month and yearly total of USBR/CVP water used for RSP operation from date of commercial operation until the year 2000.
152. Please provide an assessment of potential downstream or outflow impacts of diverting an additional 8,000 to 9,000 AFY of water from the American River.

BACKGROUND

Table 2.2-1 shows the average and peak water demand as 8,000 and 12,431 AF/Y, respectively. Chapter 1 defines the maximum rate as 9,000 AF/Y, and Table 7.1-1 shows the 4 peak months to have a demand equivalent to 9,600 AF/Y.

Section 2.2.6 indicates that the maximum natural gas requirement is 170,000 MMBtuh (LHV basis) for each gas turbine, which is 100x the heat input of comparable combined cycle turbines. No other mass & heat balance information was provided to show the sink for this large heat input or to provide a basis to better understand water consumption during average and peak conditions.

DATA REQUESTS

153. Please explain the basis for the various water consumption rates and the hours/yr that each will apply. To what degree will onsite water storage volume be used to buffer peak water demands?
154. How will condenser design, cleanliness, and performance factors be monitored? How will waste solids and cooling loop solids be managed to control scale and biosolids? In order to use more than 3 cycles of water, alternatives should be considered, such as “non-clog” fill, side-stream filtration, basin mixers, and other methods should be addressed.
155. What is the anticipated condenser cleaning frequency, method, volume, and wash water constituents? How will this wash water be treated or disposed?

BACKGROUND

Section 7.2 indicates that potable water will pass through an ultra-filter before being stored in a 2,500-gallon bulk tank and then used to replenish a chlorinated 250 gallon pressure tank. A US Filter Water Boy® package plant is said to employ microfiltration and UV disinfection, but it is unclear how this package plant will interface with the ultrafiltration and chlorination system.

DATA REQUEST

156. Please provide a process flow diagram and description of how the Water Boy® package plant will interface with the UF and chlorination system. In the

event of a power outage or potable water equipment failure please explain how sufficient pressurized water will be available to meet all plant safety showers and eyewash requirements in a worst-case scenario such as a chemical spill. Please verify that there will be sufficient chlorine contact time in light of the fact that a pressurized water tank's active volume is usually about half of its nominal volume.

BACKGROUND

Table 8.14-3 estimates effluent quality at 10 cycles of concentration and shows that silica, iron, copper, lead, manganese, mercury, silver, selenium, zinc, and other constituents could exceed the estimated effluent discharge limits. Temperature, trihalomethanes, chlorine, and biocide toxicity are other discharge concerns.

Section 7.1.5 describes the blowdown treatment as a clarifier where some of the metals are removed, with a final gravity sand separator used to reduce turbidity to less than 1 NTU before discharge. In similar applications, achieving low metals and turbidity has required different unit processes.

DATA REQUESTS

157. Clarifiers are very efficient at removing sand and silt particles, but effluent turbidity is most often caused by fine colloidal particles that are not readily removed by gravitational forces such as employed in a sand separator. Please explain the additional turbidity reduction benefit provided by the final sand separator described in 7.1.5.
158. Please assess alternate cooling processes that will provide more effective cooling than a canal with a series of notched weirs described in Section 7.1.5. Will this canal terminate in a diffuser? How will dilution/mixing zones be used to determine permit requirements? What diffuser design parameters will ensure sufficient in-stream dilution?
159. Please provide a range (min/ave/max) of anticipated make-up water constituents. If algae is a seasonal issue, how will this be managed?
160. Please provide an explanation of the total and soluble fraction of each constituent of concern listed in AFC Table 8.14-3, and explain any internal/external removal mechanisms and the "end-of-pipe" treatment efficiency needed to assure that the "very stringent" effluent discharge criteria will be met. Please address "end-of-pipe" treatment alternatives, including, but not limited to; chemical treatment/ filtration, adsorption, selective ion exchange, wetland polishing, and membrane processes.
161. In other applications having very stringent discharge criteria, one or more alternatives to end-of pipe treatment have been utilized, including; zero-discharge, alternate cooling technologies (spray-enhanced dry or hybrid wet-dry), cooling loop side-stream filtration, alternate biological control (such as UV

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or ozone), higher cycles of concentration, and RO pretreatment of make-up water. Please assess these and any other alternatives that can assure compliance with projected discharge requirements.

162. The San Joaquin River at Antioch is listed as an impaired waterway for the following constituents:

electrical conductivity	chlorpyrifos	Diazinon
Aldrin	dieldrin	Endrin
heptachlor	heptachlor epoxide	chlordane (total)
hexachlorocyclohexane (total)	DDT	endosulfan (total)
toxaphene	mercury	organic enrichment
Low dissolved oxygen	Unknown toxicity	

Are Clay Creek, Hadselville Creek, Laguna Creek, or the Cosumnes River known to contribute to the impairment caused by any of these constituents?

163. How will cooling loop and blow-down solids, chlorine residual, and trihalomethanes be monitored and controlled?

BACKGROUND

Recent RWQCB meetings with the applicant have shown that effluent discharge criteria will likely be more stringent than assumed in the AFC.

DATA REQUESTS

164. Table 8.14-3 needs to be updated to reflect the most recent estimate of NPDES effluent criteria. There are also data inconsistencies in the text and associated tables. Please verify which value is correct, or if qualifiers are needed to justify the use of different parameters. Please refer to the following table for specific data inconsistencies and requests:

Constituent	First Reference	Other References/Comment	Data Request
Copper	Section 8.14.4.1 states that 19 mg/L copper is the only blowdown constituent requiring treatment and would be 10 mg/L after treatment in the clarifier system.	Section 8.14.4.1 predicts 10 mg/L effluent copper will exceed the 20ug/L predicted NPDES copper standard shown in Table 8.14.3 by 500 times. Table 8.14-4 shows 10-cycle drift to have 190ug/L copper.	How will NPDES criteria be achieved? since cooling water drift is the same as blow-down water prior to treatment, what is the correct copper value in the cooling loop?
Nitrate	Table 7.1.2 indicates that raw water will have 30 ug/L nitrate	Table 8.14-3 & 8.14-4 predicts 10 cycle blowdown nitrate will be non-detect.	What is the nitrate removal mechanism?

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Constituent	First Reference	Other References/Comment	Data Request
Phosphate	Table 7.1.2 indicates that raw water will have 25 ug/L phosphate	Table 8.14-3 & 8.14-4 predicts 10 cycle blowdown will be non-detect.	What is the phosphate removal mechanism? Won't the phosphate compounds added as RO and cooling loop scale inhibitors add to phosphate levels?
Silica	Table 7.1.2 indicates that raw water will have 12 mg/L silica.	Table 8.14-4 predicts 10 cycle blowdown will have 120 mg/L silica.	What silica forms are expected, and how will silica scaling be managed?
TDS	Table 7.1.2 indicates that raw water will have 47 mg/L average TDS	Table 7.1-3 indicates that 10 cycle blow-down will have 470 mg/L TDS. Section 7.1.6 indicates that ave/max TDS will be 250/150 for 3 cycles of concentration, and 250/500 for 10 cycles of concentration, respectively.	Please explain how the 3 cycle maximum value can be lower than average and how the average TDS for these two scenarios are the same. Please provide the basis and specific ion balance for each scenario. Won't there be additional TDS from sulfuric acid and chemical addition?
Chromium, Hexavalent	Table 7.1.2 indicates that raw water will have 52 ug/L chrome.	Table 8.14-3 states that 10 cycle blowdown will be 10 ug/L. Table 8.14-4 estimates 10 cycle cooling water at 23 ug/L chrome.	Which is correct? What mechanism prevents a 10x chromium concentration above the raw water? The raw water and latter value above exceed the estimated NPDES criteria of 11 ug/L.
Iron	Table 7.1.2 indicates that raw water will have 99 mg/L.	Table 8.14-3 predicts a 10 cycle blowdown of 990 ug/L, which is below estimated NPDES criteria of 1,000 ug/L, but well above the secondary MCL of 300ug/L.	Won't additional iron be added from corrosion? What is the basis for the predicted criteria?
Lead	Table 7.1.2 indicates that raw water will have 2.8 mg/L.	Table 8.14-3 states that 10 cycle blowdown will average 25 ug/L. Table 8.14-3 states that NPDES effluent criteria will be 25 mg/L, but the MCLG for lead is 0 mg/L.	Why isn't this 28 mg/L, or 10x raw water? Is the NPDES criteria accurate? What contingency is available if the raw water lead is higher than anticipated?
Manganese	Table 7.1.2 indicates that raw water will have 22 ug/L	Table 8.14-3 states that 10 cycle blowdown will be 100 ug/L, which equals estimated NPDES criteria of 100 ug/L. Table 8.14-4 estimates 10 cycle cooling water will have 22 ug/L.	Why isn't the cooling loop 220ug/L, or 10x concentration above the raw water?
Zinc	Table 7.1.2 indicates that raw water will have 43 ug/L.	Table 8.14-3 states that 10 cycle blowdown will be 60 ug/L, which equals estimated NPDES criteria of 60 ug/L. Table 8.14-4 estimates 10 cycle cooling water will have 43 ug/L.	What mechanism prevents a 10x concentration above the raw water? Won't zinc also be added from galvanized metals?

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Constituent	First Reference	Other References/Comment	Data Request
Total Alkalinity, as CaCO ₃	Table 7.1.2 indicates that raw water will have 28 mg/L	Table 7.1-3 indicates that 10 cycle blow-down will have 328 mg/L. Table 8.14-3 states that 10 cycle blowdown will have 351 mg/L. Table 8.14-4 estimates 10 cycle cooling water will have 280 mg/L.	Which is correct, and won't the planned acid addition reduce alkalinity to well below 10x raw water?.
Turbidity/ TSS	Table 8.14-3 states that 10 cycle blowdown will have <1 Turbidity and <20 TSS.	Table 8.14-3 states that NPDES effluent criteria will be <1 Turbidity.	Why isn't the ratio of turbidity/ TSS @ 1? How will these criteria be reliably achieved with only clarification?
Oil and Grease	Table 8.14-3 states that 10 cycle blowdown will be non-detect. The literature suggests that oil/ water separator effluent is normally 10-20 mg/l dissolved oil.	Table 8.14-3 estimates that NPDES effluent criteria will be 10 mg/L, but most recreation, shellfish, drinking water, and fishery standards require <2 mg/L	Is the NPDES criteria accurate?
Chlorine Residual	Table 8.14-3 states that blowdown will be 0.01 mg/L (after dechlorination)	Table 8.14-3 states that NPDES effluent criteria will be 0.002 mg/L, which is far lower than Table 8.14-3's estimated residual	How will the chlorine residual be held consistently below the NPDES criteria?

165. Section 8.14.4.1 states that antiscalants and anti-fouling chemicals will be added to the cooling water but fails to provide toxicity or LD₅₀. These chemicals could affect effluent toxicity. Will whole effluent toxicity studies be conducted on cooling tower blow-down or low volume cleaning wastes? If not, explain why.